

# **APPENDIX A**

## **PIER SUBJECT AREA FUNDING PROPOSALS**

**For**

**Fiscal Year 1999/2000**

**Strategic Science and Technology**

**Renewable Energy**

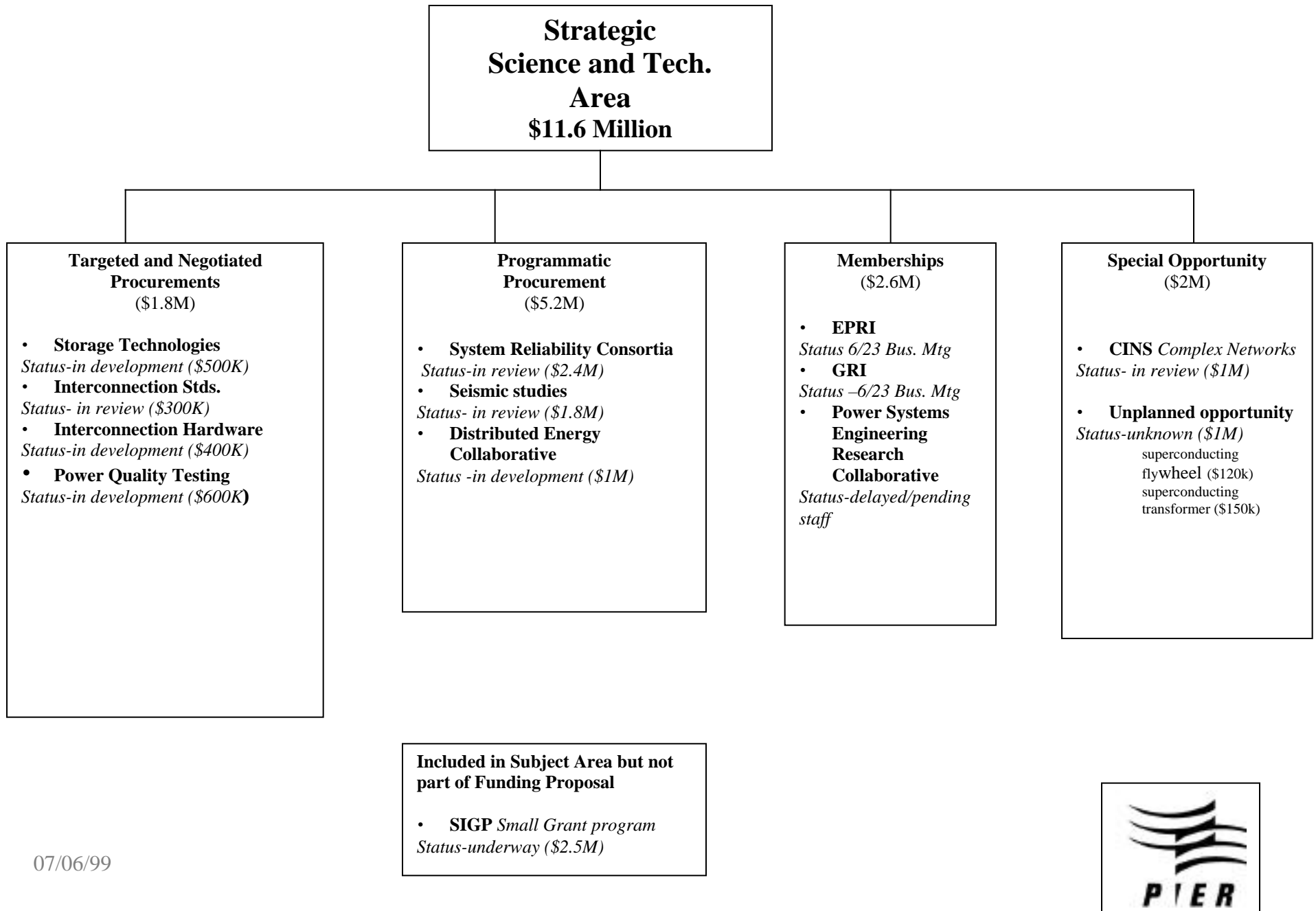
**Environmental**

**Environmentally Preferred Advanced Generation**

**Buildings**

**Industrial/Agriculture/Water**

# 1999/2000 STRATEGIC AREA FUNDING PROPOSAL



07/06/99



# 1999/2000 RENEWABLE AREA FUNDING PROPOSAL

## Renewable Energy Area (\$10.5 million)

### Cross Cutting Analytical Tools (\$820k)

- **Strategic Value Analysis (Q1)**  
*Status: Project identified and technical assistance WA being prepared and team being assembled. (\$300k)<sup>+</sup>*
- **Market Assessments (Q1)**  
*Status: Assessments identified for each renewable area. Tech assnt WA's being prepared (\$360k)*
- **Economic/Technical Targeting Tools (Q2)**  
*Status: Products still being identified. (est. \$100k)*
- **Quantification of Benefits from Renewable Electricity (Q2)**  
*Status: WA being prepared. (est. \$60k)*

### Collaborative Agmts or Sole Source Contracts (\$3.6 million)

- **Biomass/MSW**
  - Byproduct development: lignin testing (\$500k): sole source w/Ogden Energy (Q1)
  - Byproduct development: field demo (\$500k): collaborative with DOE (Q2)
  - Lowering O&M and increasing efficiencies (\$300k): interagency with UC (Q2)
- **Geothermal**
  - Reducing O&M and drilling costs (\$500k) w/DOE (Q2)
- **Hydroelectric**
  - Advanced turbine designs (\$300k) w/DOE and INEEL (Q3)
- **Photovoltaics**
  - Performance evaluation & improvement of grid connected systems (\$100k) w/DOE (Q1)
  - Hybrid PV systems (\$200k) w/DOE (Q3)
- **Wind**
  - Development of low cost utility-scale turbines (\$1 million) w/DOE and NREL (Q3)
  - Reducing turbine O&M (\$200k) w/DOE and Sandia NL (Q4)

### Competitive RFPs (\$5.5 million)

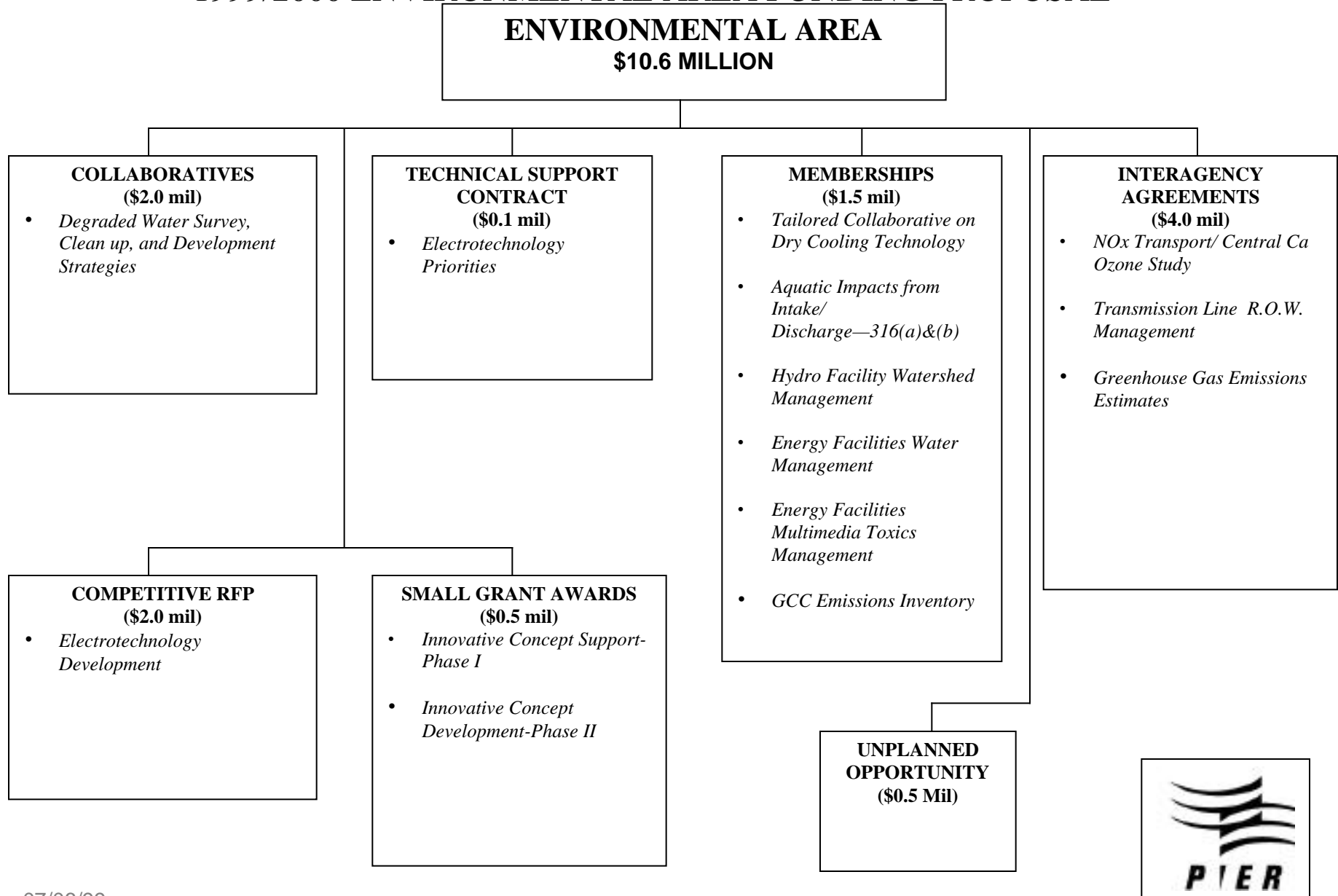
- **Biomass/MSW**
  - Small Modular Biomass RFP (\$1.0 million) (Q1)
  - Biogas and LGR innovations: (\$500k) (Q2)
- **Geothermal**
  - Development of value added products (\$500k) (Q2)
  - Improved performance systems (\$500k) (Q3)
- **Hydroelectric**
  - Lowering the costs of small hydro systems (\$500k) (Q3)
- **Photovoltaics**
  - Thin film module manufacturing (\$1 million) (Q3)
  - Reducing BOS costs (\$300k)\* (Q2)
- **Solar Thermal Electric**
  - Improving trough mirror and tube reliability and costs (\$500k) (Q2)
- **Wind**
  - Revising California's wind resource estimates (\$400k)(Q3)
  - Developing low cost storage (\$300k) (Q3)

### Memberships (\$581k)

- **EPRI (1999)**
  - Renewables Target (\$331k) (Q1)
  - Wind Forecasting Model: Tailored Collaborative (\$250k) (Q2)



# 1999/2000 ENVIRONMENTAL AREA FUNDING PROPOSAL



# 1999/2000 Environmentally Preferred Advanced Generation Area Funding Proposal

## Environmentally Preferred Advanced Generation Area \$13.5 Million

### Targeted Research Using Competitive Negotiation or RFP (\$9.3 million)

- **Advanced Turbine Generators**
  - *Microturbine (MT) Demo & Testing* (\$500k)
  - *Targeted MT Development* (\$2,000k)
  - *Combustor Design Tool Development* (\$350k)
  - *Targeted Flexible Midsize Turbine Development* (\$1,500k)
- **Fuel Cells**
  - *Targeted FC Development* (\$2,000k)
  - *Total FC Power Plant System Performance* (\$300k)
- **Cross-Cutting and Other EPAG Technologies**
  - *Power Conditioner Unit* (\$200k) \*
  - *Targeted MT/FC Hybrid* (\$1,500k)
  - *Targeted Reciprocating Engine* (\$1,000k)

### Interagency Agrmt or Sole Source Contract (\$3.6 million)

- **Advanced Turbine Generators**
  - *Development of Ultra-Low NO<sub>x</sub> Surface Stabilized Combustor* (\$1,000k)
- **Fuel Cells (FC)**
  - *Residential-scale FC Demo* (\$500k)
  - *Dynamic Models for FC Systems* (\$400k)
  - *FC Performance Analysis Tools* (\$300k)
- **Cross-Cutting and Other EPAG Technologies**
  - *Innovative Projects Grants* (\$1,000k)
- **Program Support**
  - *Long-Term DOE MOU* (\$400k)

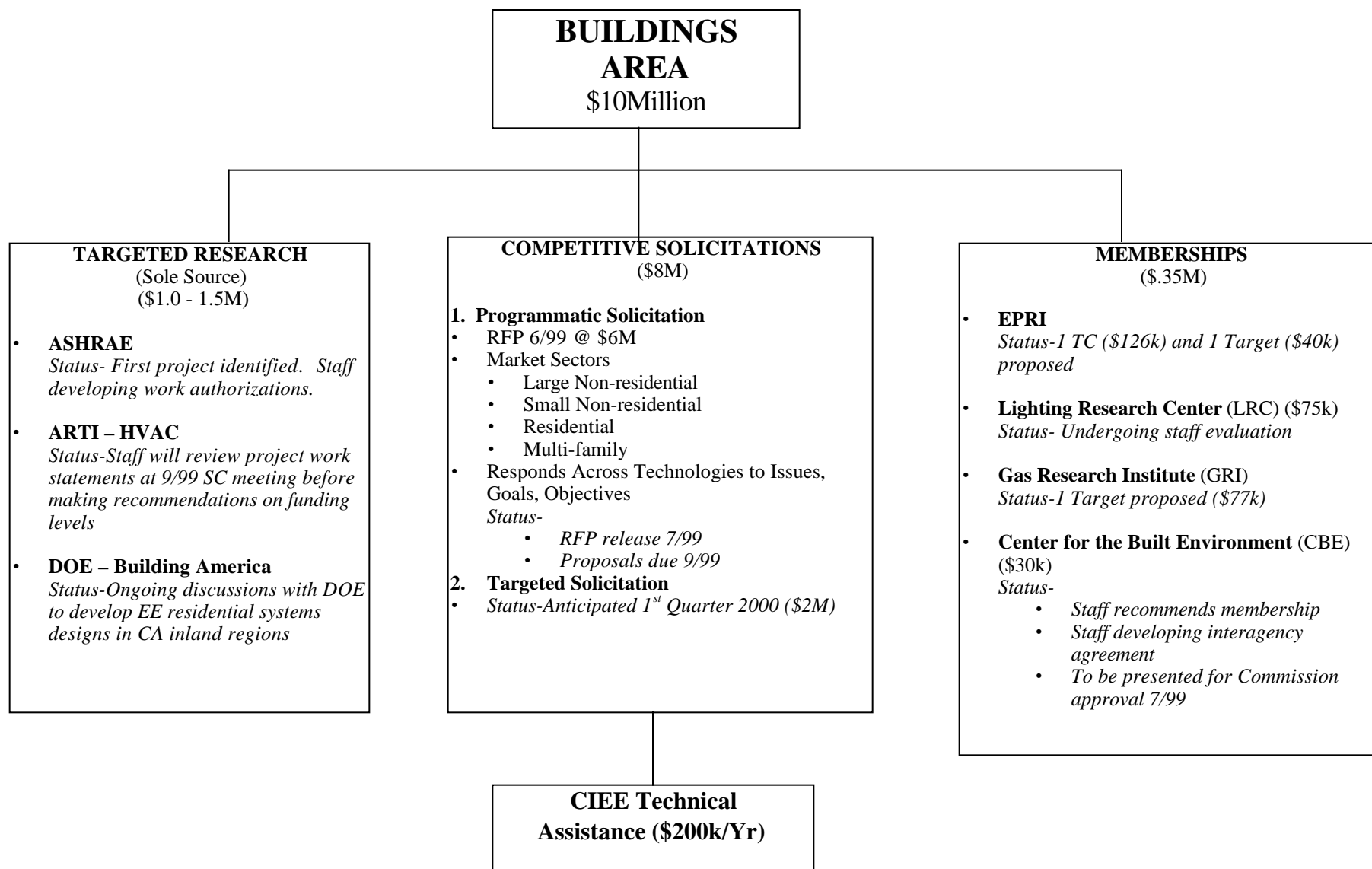
### Memberships or Tech Support (\$0.55 million)

- **Cross-Cutting and Other EPAG Technologies**
  - *EPRI Memberships* (\$155k) \*
  - *GRI Memberships* (\$68k) \*
- **Program Support**
  - *EPAG Technology Roadmapping* (\$330k)

\* These projects are being co-funded with at least one other PIER program area. The estimated cost in this table is only the EPAG portion of the total cost.



# 1999/2000 BUILDINGS AREA FUNDING PROPOSAL



# 1999/2000 INDUSTRIAL/AG/WATER AREA FUNDING PROPOSAL

